



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/707,275	12/02/2003	Hui-Kai Chou	ADTP0112USA	1274
27765	7590	11/15/2006	EXAMINER	
NORTH AMERICA INTELLECTUAL PROPERTY CORPORATION P.O. BOX 506 MERRIFIELD, VA 22116			TRAN, THUY V	
			ART UNIT	PAPER NUMBER
			2821	

DATE MAILED: 11/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/707,275		CHOU, HUI-KAI	
	Examiner		Art Unit	
	Thuy V. Tran		2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on amendment submitted on 09/05/2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-16 and 20-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-16 and 20-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>08/29/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This is a response to the Applicant's amendment submitted on September 05, 2006. In virtue of this amendment, claims 1-11 and 17-19 have been canceled; and thus, claims 12-16 and 20-22 remain pending in the instant application.

Drawings

1. The "Replacement Sheet" of drawings submitted on 09/05/2006 is accepted.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 12-13 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Van Duijneveldt (U.S. Patent No. 5,971,567).

With respect to claim 12, Van Duijneveldt discloses, in Fig. 4A, a backlight source disposed under a display panel, the backlight source comprising a plurality of parallel U-shaped lamps [34, 35, ...]; each of which comprises a bending portion, a high voltage electrode at one end (connected to power source [38, 39]; see Fig. 4A) and a low voltage electrode at another end (see Fig. 4A) of each of the U-shaped lamp; the U-shaped lamps being reversed disposed side by side along a first direction, each of the U-shaped lamps being bent in a reverse direction to the adjacent U-shaped lamps, so that the high and low voltage electrodes are positioned in two lines along the first direction, and the high voltage electrode of each of the U-shaped lamps is adjacent to the low voltage electrode of the same U-shaped lamps; wherein each of the U-shaped

Art Unit: 2821

lamps has an opening defined by its two ends and bending portion, and one end of each of the U-shaped lamps is positioned inside the opening of one of the adjacent U-shaped lamps; wherein the low voltage electrode of the U-shaped lamp [34] is not connected to the high voltage electrode of another U-shaped lamp [34'] in series.

With respect to claim 13, Van Duijneveltdt inherently discloses that the backlight source is installed in a direct-type backlight panel unit (since the lamps are arranged in row; see Fig. 4A).

With respect to claim 16, Van Duijneveltdt discloses that the U-shaped lamp is a cold cathode fluorescent lamp (see col. 7, lines 9-10).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 14-15 and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Duijneveltdt (U.S. Patent No. 5,971,567) in view of Yajima et al. (Pub. No.: US 2001/0050735 A1).

With respect to claim 14, Van Duijneveltdt further discloses, in Figs. 4A-B, that the direct type backlight unit comprises a diffuser [37] disposed between the display panel (not shown in Figs. 4A-B) and the plurality of the U-shaped lamps [34, 35, ...] for scattering (see col. 7, line 13) a light source generated by the plurality of the U-shaped lamps to the display panel, and a reflecting plate [32, 33, ...] disposed under the plurality of the U-shaped lamps for reflecting the

Art Unit: 2821

light source. Van Duijneveldt does not teach a light diffuser plate which is disposed between the diffuser and the plurality of the U-shaped lamps.

Yajima et al. discloses, in Fig. 13, a direct-type backlight unit comprises a light diffuser plate [50] disposed between a display panel and a plurality of the U-shaped lamps [35].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the backlight unit of Van Duijneveldt with a light diffuser plate located between the diffuser and the lamps so as to enhance the transmission of the light source to the display panel and thus to improve the uniformity of illumination on the display device since such a use of the light diffuser plate for the stated purpose has been well known in the art as evidenced by the teaching of Yajima et al. (see paragraph [0166], lines 3-6).

With respect to claim 15, Van Duijneveldt discloses, in Fig. 4A-B, that the direct-type backlight panel unit further comprises a housing [36] disposed under the reflecting plate [36] for surrounding the reflecting plate [36], and a bezel [52] (shown in Fig. 5) for assembling the display panel and the backlight source.

With respect to claim 20, Van Duijneveldt discloses all of the claimed subject matter, as expressly recited in claim 12, except for a control circuit electrically connected to the power supply for driving the backlight source.

Yajima et al. discloses, in Fig. 31C and 31F, a backlight source comprising a control circuit (including a transformer and an inverter; see Fig. 31F) electrically connected to a power supply for driving the backlight source.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the display light source device of Van Duijneveldt by additionally

Art Unit: 2821

configuring a control circuit electrically connected to the power supply as taught by Yajima et al. to facilitate the control of the amount of power supply to the high voltage side of the electrodes since Yajima et al. teaches that such control circuit can provide high voltages thereto (see paragraph [0235], lines 9-11).

With respect to claim 21, the combination of Van Duijneveldt and Yajima et al. disclose that the control circuit (see Fig. 31F of Yajima et al.) comprises one inverter electrically connected to the high voltage electrode [35c] and the low voltage electrode (to the ground or 35d) of the corresponding U-shaped lamp.

With respect to claim 22, the combination of Van Duijneveldt and Yajima et al. disclose that the inverter (see Fig. 31F of Yajima et al.) comprises a direct current/alternating current (DC/AC) inverter.

Remarks and conclusion

6. Applicant's arguments filed 09/05/2006 have been fully considered but they are not persuasive.

In response to the Applicant's arguments on amended claim 12 with respect to the cited prior art to Van Duijneveldt in lines 10-17 of page 5, it is noted that Van Duijneveldt clearly discloses in Fig. 4A that the U-shaped lamps [34, 35, 34'', 35''] are connected in a non-serial way and that the low voltage electrode of the U-shaped lamp [34] is not connected to the high voltage electrode of another U-shaped lamp [34'] in series.

In regard to the rejections of claims 14-15 and 20-22, it is noted that the teaching of Yajima has been appropriately used to cure the deficiencies of Van Duijneveldt since both are analogous arts.

Art Unit: 2821

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thuy V. Tran whose telephone number is (571) 272-1828. The examiner can normally be reached on M-F (8:00 AM -4:00 PM).

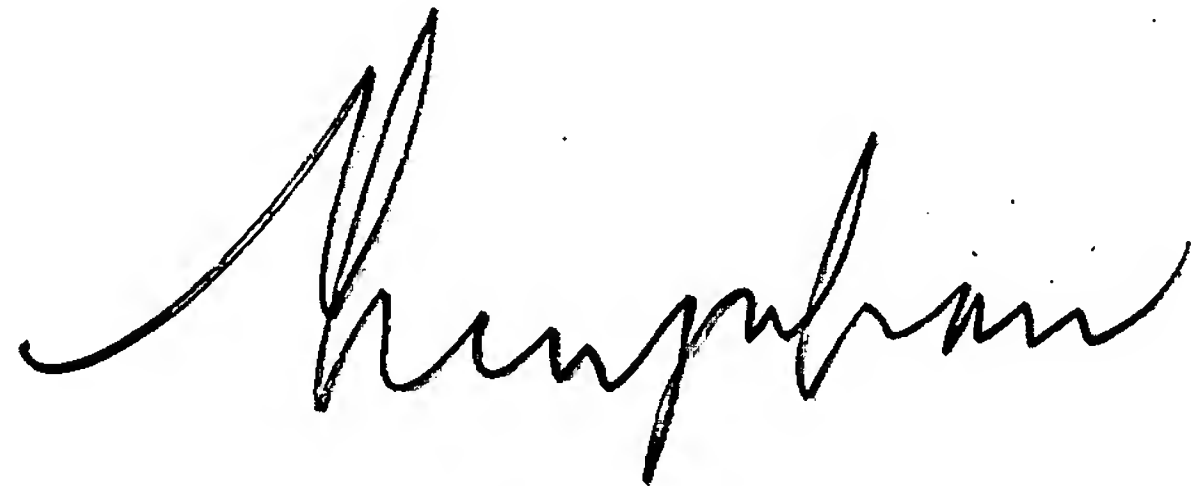
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy P. Callahan can be reached on (571) 272-1740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR

Art Unit: 2821

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

11/009/2006

A handwritten signature in black ink, appearing to read 'Thuy V. Tran', written in a cursive style.

**THUY V. TRAN
PRIMARY EXAMINER**